

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.



United States
Department of
Agriculture

Economics
and Statistics
Service

Foreign
Agricultural
Economic
Report
Number 162

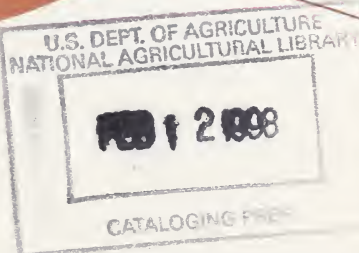
*Series Special Reports
Foreign Markets Vol. 15*

Trade Restrictions in International Grain and Oilseed Markets

A Comparative Country Analysis

Cathy L. Jabara

A281.9
Ag8F
no. 162



Trade Restrictions in International Grain and Oilseed Markets: A Comparative Country Analysis, by Cathy L. Jabara, International Economics Division, Economics and Statistics Service, U.S. Department of Agriculture. Foreign Agricultural Economic Report No. 162.

Abstract

State trading practices and variable levies, which protect administered price levels set in importing countries, as well as tariffs, taxes, quotas, bilateral agreements, and other policies, tend to restrict the level of competition in international markets. In addition, many exporting countries implement similar types of policies that restrict or subsidize exports. Quantitative estimates of the degree of protection provided by trade and domestic policies of 18 major importing and exporting countries indicate that wheat and rice markets are the more heavily protected, followed by corn and soybeans. The importance of nontariff barriers in wheat, rice, and corn markets indicates difficulty in enhancing competition in these markets.

Keywords: Grain trading, Nontariff trade barriers, Wheat, Rice, Corn, Soybeans, Trade restrictions

Acknowledgments

The author thanks Carol Bray, Anne del Castillo, Phil Paarlberg, Alan Webb, Gary Williams, and Ted Wilson for gathering information for this study. Country analysts in the International Economics Division provided additional information: John Dunmore, John Dyck, Amjad Gill, Jim Lopes, John Parker, Miles Lambert, Michael Cullen, John Link, Samuel Ruff, and William Coyle. Vernon Roningén provided helpful comments.

Preface

The *Food and Agriculture Act of 1977* will expire in 1981. New legislation will become the Nation's master plan for agriculture until 1985. It could well influence the organization and operation of the food system for many years.

Several new issues have emerged since 1977. Of particular significance are such matters as inflation, energy, credit, conservation of our resource base, the increasing international role of U.S. agriculture, and the design and implementation of both domestic and international food assistance programs.

This report is a product of the ESS research agenda for the 1981 food and agriculture bill. It addresses the issue of competition in international grains and oilseed markets.

Contents

	<i>Page</i>
Summary	v
Introduction	1
Trade Restrictions Imposed by Importing Countries	2
Restrictions on Wheat	4
Restrictions on Coarse Grains	9
Restrictions on Wheat and Coarse Grains by Centrally Planned Countries	13
Restrictions on Rice	15
Restrictions on Soybeans	16
Trade Restrictions Imposed by Exporting Countries	17
Restrictions on Soybeans	19
Restrictions on Rice	21
Restrictions on Wheat and Coarse Grains	23
Measurement of the Degree of Protection	27
Methodology	28
Measurement Problems	31
Degree of Protection	32
Conclusions	38
References	39

Summary

Wheat and rice are the most heavily protected grains in the world market, followed by corn and soybeans. Much of this protection results from state trading practices which permit domestic prices to be maintained at levels different from world market prices and do not permit world market signals to penetrate the domestic market. Such trade restrictions make efforts to increase competition in the world market very difficult.

This survey of national policies indicates the extent to which state trading practices and variable levies, which protect internally administered prices, as well as tariffs, taxes, quotas, bilateral agreements, and other policies restrict competition. Policies of 18 countries which are major traders of grains and oilseeds are assessed.

Nontariff barriers represent greater restrictions to trade in importing countries than do tariffs, primarily because tariffs have been gradually lowered through international negotiations. Nontariff barriers have been difficult to negotiate in the international arena since their effects are difficult to measure and because they are principally linked to domestic policies and programs such as maintaining farm income or low prices for consumers.

As a low-cost grain and oilseed producer and the largest exporter of these commodities, the United States has a vital interest in domestic agricultural and trade policies imposed by foreign governments which affect the competitive position of U.S. agricultural exports.

Trade Restrictions in International Grain and Oilseed Markets: A Comparative Country Analysis

Cathy L. Jabara
Agricultural Economist

Introduction

Economic and policy events occurring outside the United States have an important impact on the U.S. food and agricultural sector. As a low-cost grain and oilseed (primarily soybeans) producer and the largest exporter of these commodities, the United States has a vital interest in domestic agricultural and trade policies imposed by foreign governments. These policies very often affect the competitive position of U.S. agricultural exports. The most common of these foreign domestic policies are price supports which maintain domestic prices at different levels than world prices. Trade restrictions of some form are then required to preserve the domestic price level and to insure orderly marketing of domestic production.

The primary trade restrictions imposed by importing countries that affect U.S. agricultural exports include tariff barriers as well as nontariff barriers such as quotas and licensing, variable levies, state trading, customs valuation practices, and export subsidies. In addition, some countries have adopted domestic production subsidies to further aid domestic producers. Nontariff barriers present a more important barrier to the most important exports of the United States because tariff barriers have been gradually lowered through international negotiations. Nontariff barriers have been difficult to negotiate because their effects are difficult to quantify and they are usually linked to domestic economic and social objectives of governments.¹ Such objectives include protection of farm income and/or key political constituencies, protection of a minimum production capability for food security or other reasons, preservation of government control over the production and marketing system, or import substitution for balance of payments reasons (11).²

In addition to these policies, major exporting countries implement trade policies which tend to restrict the level of competition in grain and oilseed

¹To the extent that nontariff barriers that stabilize internal prices become more pervasive in international trade, international prices become more unstable. International trade distortions which partially or totally insulate an importing country from the rest of the world throw the price adjustment burden onto the rest of the world. Tariff barriers which allow world price signals to penetrate the tariff-imposing country allow part of the adjustment to take place in the country (15).

²Italicized numbers in parentheses refer to items in the References section.

Trade Restrictions Imposed by Importing Countries

markets. These policies include use of marketing boards to handle grain exports, export taxes, quotas, and subsidies, or exchange rate policies.

This study reviews domestic agricultural and trade policies of the major exporters and importers of grains and soybeans and quantitatively assesses the degree of protection provided by these policies. It examines tariff and non-tariff restrictions used by countries to protect their domestic agricultural sectors as well as domestic price and marketing policies. The degree of protection, or the degree to which prices are distorted by trade barriers and policies, is then measured for selected countries from the combination of protective measures used in each country (9). Emphasis is placed on developed and developing countries which are significant importers or export competitors in grain and oilseed markets.

Trade Restrictions Imposed by Importing Countries

Trade restrictions imposed by importing countries include tariffs, variable levies, state trading, export subsidies, import licensing, quantitative restrictions, bilateral trade agreements, and customs valuation practices. These restrictions and domestic pricing policies and other incentives for domestic agricultural production are discussed in this section. Domestic policies are included because trade barriers often arise to protect domestic pricing schemes from import competition. Other policies, such as subsidies on agricultural inputs or subsidies on agricultural output (deficiency payments), are important trade barriers to the extent that domestic production becomes more profitable and, thus, more competitive with imports.

In addition to the restrictions mentioned above, government intervention in foreign exchange markets often results in currencies worth more (overvaluation) or less (undervaluation) than if markets were allowed to work freely. An overvalued exchange rate acts as an implicit tax on exports (subsidy on imports), whereas an undervalued currency acts as an implicit tax on imports (subsidy on exports). The issue of overvalued currencies is most often mentioned in the context of developing countries which have erected import barriers in order to maintain overvalued exchange rates. However, Schuh has argued that the U.S. dollar was overvalued during the fifties and sixties, while the Japanese yen and the German mark were substantially undervalued (20). The question of the appropriate exchange rate is not discussed in this paper. Explicit exchange rate policies for Brazil and Argentina, countries that have used exchange rates to restrict trade flows, are discussed in a later section.

Trade Restrictions Imposed by Importing Countries

Trade barriers and domestic policies analyzed in this study are described below (11, 39).

Variable Levies: A variable charge on imports, levies may be applied in addition to or in lieu of tariffs. Most levies are related to a minimum import or threshold price, as in the case of the European Community (EC) and Spain, or to the level of domestic prices.

State Trading: This barrier refers to importation by state trading agencies, government monopolies, and government-supported marketing boards in market economy countries (39). State trading results in different degrees of restriction depending upon the extent to which prices are controlled and sources of supply are influenced by noncompetitive factors. Tariffs are generally not applied where state trading exists.

Customs Valuation: This barrier refers to the use of artificial means of determining the value of goods on which duties are levied. The customs valuation procedure raises the level of protection provided from tariffs when the import prices to which they are applied are increased. Use of this procedure by Taiwan and Mexico is described in this report.

Export Subsidies: Export subsidies refer to schemes such as the EC's "restitution" system in which a subsidy is granted allowing exporters to meet the prevailing price in the market. Export subsidies are payments made to exporters so that they can export at or below the world price.

Import Licensing and Quantitative Restrictions: Restrictive licensing, whether within a predetermined quota or not, can be an important barrier to trade. This practice is often used in developing countries. The most notable case in this study is Nigeria. A tariff quota, a device whereby imports above a certain level pay a higher duty, is used by Japan and the Republic of Korea for certain imports.

Tariffs: This barrier refers to any type of customs duty levied at the port. Tariffs are usually *ad valorem* (percent of the price) or *specific* (an absolute amount).

Bilateral Trade Agreements: These are agreements between countries providing for the purchase or exchange of specific commodities. They represent barriers to trade in the sense that they isolate the negotiated commodities from market forces. Their impact on trade is difficult to identify because many agreements cover only a small part of trade with a particular country and in the particular commodity.

Trade Restrictions Imposed by Importing Countries

Pricing Policies: Domestic pricing policies, usually in combination with variable levies, import quotas, or state trading, restrict trade by encouraging domestic production that displaces imports and/or by discouraging consumption. This is generally accomplished through the establishment of guaranteed (or government-decreed) floor prices. Governments support these prices by the promise to purchase all or a specified portion of total production. Many governments follow dual pricing policies whereby consumers purchase supported commodities at prices lower than the prices received by producers.

Production Subsidies: Subsidies provided on inputs used in production of import-competing commodities restrict trade by increasing the profitability of domestic production. The extent of the restriction, however, depends upon the extent to which subsidies are used to offset protection provided to producers of the inputs and to which domestic production responds to the increased incentives.

Restrictions on Wheat

Major importers which place restrictions on imports are the European Community, Japan, Brazil, Nigeria, Egypt, the Republic of Korea, and India. Various types of restrictions are discussed for each of these countries.

European Community

Variable Levies: The EC's variable levy protects its common pricing system for grains by raising prices of imported wheat to equal the threshold or minimum import price. Levies set for soft (nondurum) and durum wheat imports since 1967 represent the difference between the lowest world offer price at Rotterdam and the common threshold price established for the EC. The same levy is applied to all grades and qualities of wheat without regard to origin. Imports into the EC are primarily hard wheats, whereas the EC (France) exports soft wheats.

A common levy is set for all EC member countries for durum and nondurum wheats, but there are several exceptions:

*Levies on wheat imports into the United Kingdom, Denmark, and Ireland, which acceded to the EC in January 1973, were reduced by Accession Compensatory Amounts, which were equal to the difference between full EC prices and transitional prices, during the period of transition into the EC, 1973-77.

Trade Restrictions Imposed by Importing Countries

*Small levy reductions are granted on durum wheat imported from Morocco and Turkey.

*Levies have been reduced or increased by border taxes and subsidies (Monetary Compensatory Amounts-MCAs) since the late sixties. MCAs are applied in intra- as well as extra-EC trade in order to prevent EC support prices from fluctuating with market exchange rates.³

Pricing Policies: The EC's pricing system for grains includes target prices, intervention prices, and threshold prices for soft and durum wheat. Target prices represent the desired wholesale price at Duisburg, Federal Republic of Germany. Intervention prices represent a floor price at which intervention agencies purchase grain offered by producers. Since 1976/77, intervention prices for each grain have been the same at each intervention center. The threshold price is set at Rotterdam so that the target price is the same as the wholesale selling price of imports at Duisburg.

Production Subsidies: Since 1967 the EC has authorized a subsidy payable to durum wheat producers. This subsidy was uniform for all member countries until 1976 when it was permitted to vary by region. The subsidy currently is paid only in certain regions of the EC characterized by below average yields. A subsidy was also granted for wheat in feed use until 1974. The premium became obsolete in the 1976/77 market year (August-July) when a new EC pricing system was adopted whereby individual grains are priced according to feed value (24).

Export Subsidies: Export restitutions or subsidies are applied to wheat exports when prices in the EC are above world prices and exports are available. Export restitutions take into account differences between wheat prices in representative export markets, marketing costs, and other export expenses and grain prices in various representative markets in the EC. The EC can also take steps to prevent supply shortages by applying export levies fixed on the same criteria as export subsidies.

Japan

State Trading: Trade in wheat in Japan is under complete government control. Imports of wheat must be licensed by the Japanese Food Agency and all imports are sold to the government at the port. Wheat is imported on a quota arrangement whereby the government determines the quantities to be imported each year.

³MCAs were not applied to durum wheat until 1978. Jabara and Brigida (14) have calculated the effect of MCAs on EC import levies for wheat and other grains.

Trade Restrictions Imposed by Importing Countries

Pricing Policies: State trading arrangements protect the pricing and marketing system for wheat in Japan established under the Food Control Law of 1942. The government of Japan purchases all quantities of wheat offered on the market at fixed producer prices which are higher than world prices.⁴ The government sells domestic and imported wheat at an established resale price determined every year. A dual pricing system is followed whereby the government sets high prices for producers and lower prices for consumers.

Production Subsidies: Wheat producers in Japan who divert paddy fields to wheat production have received a diversion subsidy since the 1969/70 (April-March) fiscal year. The diversion payment is part of the Japanese government's program to reduce persistent surpluses of rice which have occurred since 1969 (see rice section). Farmers currently receive a subsidy of 550,000 yen (US \$2,613) per hectare of paddy land diverted to wheat production. Farmers who grow wheat in rotation with rice receive an additional bonus payment of 80,000 yen per hectare (US \$380).

Bilateral Trade Agreements: The government of Japan has entered into trade arrangements with wheat-exporting countries since 1972. These arrangements generally specify the quantity of wheat to be supplied and purchased for a year. The Food Agency has commitments with the United States, the Canadian Wheat Board, and the Australian Wheat Board.

Brazil

State Trading: Wheat imports into Brazil are under complete state control. The Wheat Marketing Office of the Bank of Brazil (CTRIN) has held sole authority for purchase and resale of all domestic and imported wheat since 1962. Import quantities are based upon the forecasted import requirements and are controlled through strict import licensing.

Pricing Policies: State trading arrangements protect Brazil's minimum support price system for wheat whereby the government establishes fixed prices for wheat well above world market prices. The government operates a dual pricing system which maintains resale prices to flour mills at below producer and import prices.

Production Subsidies: Additional support for wheat production is provided through production loans and subsidies. Fertilizer loans are made at zero in-

⁴Government control over domestically produced wheat was relaxed in 1976 when domestic wheat marketing was set free. Because the government's purchase price is higher than the resale price, practically all domestic wheat is sold to the government as before.

Trade Restrictions Imposed by Importing Countries

terest cost and investments in wheat cultivation and harvesting machinery are subsidized.⁵ Production loans are offered at around 22-35 percent interest, well below the rate of inflation. Production loans are based on historical yield ranges (28).

Nigeria

Production Subsidies: Wheat imports enter Nigeria free of duty and through a generally private marketing system. The Nigerian Grains Board (NGRB) provides a producer floor price for wheat generally equal to or below market prices. The NGRB attempts to raise producer incomes through introduction of more appropriate crops and technology and by providing subsidies on input use (fertilizer and credit).

Import Licensing: Nigeria in the past has prohibited certain imports for short periods of time in order to limit imports when its foreign exchange reserves become depleted. Wheat imports have been licensed since April 1979.

Egypt

State Trading: Imports of wheat into Egypt are largely in the hands of the Ministry of Supply, the monopoly importer of wheat and flour. Wheat imports are negotiated largely through the U.S. Public Law 480 concessional sales program.

Pricing Policies: Imported wheat is supplied to mills at subsidized prices. Prices and profit margins are fixed throughout the distribution chain. Domestic wheat production in Egypt is sold on two markets, one state controlled and the other a free market. State control of the market is effected through compulsory sales at prices below the free market which are collected by agricultural cooperatives. The cooperatives requisitioned about 20 percent of wheat production for the state in 1978 (35). Membership in the cooperatives is mandatory for producers.

Production Subsidies: Aid to producers for wheat production includes subsidies on pest control and fertilizer. The government also provides water for agricultural use free of charge as well as investments in irrigation infrastructure.

Bilateral Agreements: Egypt has a 3-year agreement with Australia to supply 1 million metric tons of wheat annually.

⁵Fertilizer prices were subsidized 40 percent in 1975. This subsidy was lifted in 1976, but credit to purchase fertilizer was offered at zero interest. A subsidy was reinstituted in January 1980, at the industrial level (28).

Trade Restrictions Imposed by Importing Countries

Republic of Korea

State Trading: The Korean Flour Mills Industry Association (KOFMIA), a government-recognized trade group, is the sole importer of wheat into Korea. Annual import targets are set by the Ministry of Agriculture and Fisheries (MAF) which are flexible depending upon the domestic demand and supply situation for wheat.

Pricing Policies: Support prices for the limited domestic production of wheat are announced every year by the Grains Management Fund (GMF). These prices are usually higher than world market price. Wheat purchased by the government is sold to flour mills at release prices lower than the producer support price. The difference is absorbed by the GMF.

Imported wheat is sold at a government-established import price. When import prices are above this price, the difference is paid by the Flour Price Stabilization Fund (FPSF). Similarly, when import prices are below this established price, flour millers pay the difference into the fund. The FPSF was established in 1976 by KOFMIA and the Korean government to stabilize prices of imported wheat.

Tariff Quotas: A tariff quota system for wheat is in operation in 1980 in which wheat is imported duty free up to 2 million metric tons and a 5-percent *ad valorem* tariff is applied thereafter.

India

State Trading: The Food Corporation of India (FCI), a government agency established in 1965, is the sole importer of wheat into India.

Pricing Policies: Domestic wheat is purchased by the FCI at government-established support prices. Government support prices are generally below market prices but are competitive at harvest when market prices soften. Commercial prices have generally been equivalent to world market prices since 1976. In deficit periods, the government requires farmers to sell either a percentage of wheat production or an absolute quantity of wheat to the government at the established support price.

The FCI sells lower quality wheat through "Fair Price and Ration Shops" at prices which are lower than those on village commercial markets. Indian consumers generally prefer to buy on the commercial markets even if at higher prices.

Trade Restrictions Imposed by Importing Countries

Producer Subsidies: The government of India aids wheat producers through subsidies on the cost of fertilizer and pesticides. State governments provide financial assistance and/or price concessions for irrigation water and for sound irrigation practices.

Restrictions on Coarse Grains

Major importers which place restrictions on coarse grain imports are the EC, Japan, Spain, Mexico, the Republic of Korea, Greece, and Taiwan. Their agricultural trade and domestic policies are described below.

European Community

Variable Levies: Imports of corn, barley, rye, oats, and grain sorghum into the EC are subject to the same import levy system as imports of wheat (see previous section). The purpose of the levies on coarse grains is to protect the common pricing system of threshold (minimum import), support (intervention) prices, and target (desired wholesale) prices established for coarse grains every year.⁶ The following are exceptions to the application of common levies on coarse grains in addition to those mentioned previously:

*Levy reductions are granted on corn and grain sorghum imported from ACP countries.⁷

*Levy reductions have been granted on feed grain imports into Italy from 1967/68 to the present marketing year.

Japan

State Trading: Imports of barley into Japan are subject to the same state trading arrangements as wheat imports. Imports of corn are usually made by private industry without interference from the government.

Pricing Policies: The government purchases all quantities of barley offered at the support prices or farmers may contract to sell on the local market. A dual pricing system is followed whereby resale prices are lower than the producer support prices. Production of corn in Japan is minimal and there are no support prices.

⁶A threshold price is set for oats, but there is no target or intervention price.

⁷ACP countries are the African, Caribbean, and Pacific developing countries that are signatories to the Lomé Convention.

Trade Restrictions Imposed by Importing Countries

Tariff Quotas: Corn for industrial use is subject to the Corn Import Quota Law enacted in 1965. The government sets an import quota on corn for industrial use within which corn is duty free or taxed at 10 percent *ad valorem* depending on the quality of corn and its end use. Corn imported outside the quota is taxed 15,000 yen (US \$71) per metric ton.

Bilateral Trade Agreements: Japan renews informal arrangements each year with Canada and Australia to purchase about 800,000 metric tons and 650,000 metric tons of barley, respectively.

Production Subsidies: Japanese producers receive payments to divert paddy land to production barley (see rice section). The current rice diversion program provides for a base payment of 550,000 yen (US \$2,613) per hectare of paddy land diverted to barley production.

Spain

Variable Levies: Variable levies in Spain are applicable to imports of corn, barley, sorghum, and millet. Spain's variable levy system, initiated in 1963, is designed to protect threshold (minimum import) prices for feed grains initiated at the same time as the producer support price system. Variable levies are the difference between a constructed cost plus insurance and freight (c.i.f.) offer price and the threshold price.⁸ Individual levies are applicable to all grades and qualities of each grain and regardless of origin.

Pricing Policies: Feed processors in Spain are guaranteed a maximum selling price of (plus or minus) 2 percent of the respective threshold price. In periods of high feed grain prices, the government will purchase domestic grain at support prices and sell it to feed processors at lower prices. Farmers who sell grain on the free market during these periods receive payments equal to the difference between market and support prices.

Production Subsidies: Producers of corn and sorghum receive production subsidies on the cost of improved seed, fertilizers, pest control treatment, and on shelling, drying, and storage facilities. Producers also receive loans for the purchase of seeds and fertilizer.

⁸Imports of feed grains are subject to a 1-percent *ad valorem* tariff as well as minor port dues and insurance charges. Imports are also subject to a compensatory tax, normally 8 percent, applied to compensate for value-added taxes paid on domestic feed grains. Feed grain imports also must be carried on Spanish flag vessels, although this requirement is often waived.

Trade Restrictions Imposed by Importing Countries

Mexico

State Trading: The government supply agency, CONSUPO (National Public Supply Company), has traditionally acted as the sole importer of coarse grains (corn and grain sorghum). In March 1979, agreements were reached which allow the private sector to play a more important role in the importation of grain. Mixed committees consisting of representatives from CONSUPO, the Ministry of Commerce, and the appropriate private trade organization were established for the purchase and import of all grains (31). CONSUPO continues to handle the importation of certain quantities of grains to supply small processors and firms under public management and when government-to-government purchases are required.

Tariffs: Imports of rye, barley, and oats are subject to *ad valorem* tariffs and surcharges. The *ad valorem* equivalent of duties on these grains is currently 12.3 percent of c.i.f. prices.⁹ Import licenses are also required.

Pricing Policies: CONSUPO administers price supports for corn, grain sorghum, and barley. Coarse grains sold to feed compounders by CONSUPO are subsidized by the government. Prices are established at roughly 80 percent of producer support prices (40). The recent expanded role of the private sector in importing coarse grains has led the government to enact a program of direct compensation to importers so that the subsidy is retained.

Production Subsidies: The government aids grain producers by providing subsidies on the cost of seed, fertilizer, pest control, irrigation water, and credit.

Republic of Korea

State Trading: The Livestock Industry Development Corporation, an agency set up by the Korean government, assumed sole responsibility for feed grain imports (primarily corn) in 1979. Previously, imports were purchased by the Korea Feed Association, a trade group. Import targets for imported feed grains are set by the Ministry of Agriculture and Fisheries; these targets are flexible depending upon the domestic demand and supply situation.

Pricing Policies: Support prices for corn and barley are set every year in advance of the crop season. These prices are generally higher than market prices. Feed compounders purchase imported corn at an import price established by

⁹Until 1980, tariffs were applied to the c.i.f. value or to the artificial customs valuation, whichever was higher.

Trade Restrictions Imposed by Importing Countries

the government which can be higher or lower than world market prices. Any difference is paid out or paid into the Formula Feed Price Stabilization Fund established in 1976 to stabilize prices of imported corn.

The resale price of corn from government stocks is usually higher than the producer support price and the import price. Corn sold to feed processors from government stocks is subsidized from the Formula Feed Price Stabilization Fund. Resale prices of barley from government stocks are lower than producer prices. This loss is absorbed by the government.

Tariff Quotas: A tariff quota is applied on corn for industrial use. A 10-percent duty is applied on the first 480,000 tons and a 20-percent duty is applied thereafter. There are no tariffs on barley or on feed grains.

Producer Subsidies: Fertilizer subsidies existed in the early seventies but were ended in December 1975.

Greece

State Trading: Imports of coarse grains (primarily corn) are under complete government control. The government controls both domestic marketing and foreign trade in grains through the sole purchaser of domestically produced grains, the Ministry of Commerce. Imports of grain are made under international tenders which may be contracted to private domestic firms.

Pricing Policies: The Ministry of Commerce purchases grain from farmers at guaranteed prices which are above world import prices. The sale price of feed grains to livestock and poultry farmers is lowered by a government subsidy. Both domestic and imported feed grains are sold at the same price. In 1978, the resale price for feed grains (wheat, corn, and barley) was approximately US \$125 per metric ton.

Tariffs: Greece was scheduled to join the EC on January 1, 1981, and will gradually adjust its tariff and nontariff barriers to EC levels. Tariff levels on imports of corn by the private sector in Greece are currently 0.3—0.7 paper drachmas (US \$0.01—0.02) per kilogram. Imports of rye are subject to a 16-percent *ad valorem* duty and barley and oats are subject to specific tariffs of 0.6 paper drachmas (US \$0.02) per kilogram.

Production Subsidies: Subsidies are granted for the purchase of fertilizer, herbicides, improved seed, and machinery for cutting, shelling, and drying of corn.

Trade Restrictions Imposed by Importing Countries

Taiwan

Pricing Policies: The government establishes a support price for corn every year. Farmers sell domestic corn at the support price to farmer cooperatives which then sell at market prices (usually lower) to the feed mill members of the cooperative. The difference between prices paid to farmers and the cooperatives' receipts from sales to feed mills is provided by the Taiwan Grains and Oilseed foundation (FGODF), a private organization chaired by a government official.

Effective July 1979, the Board of Foreign Trade (BOFT) established a corn equalization fund to stabilize prices of imported feed grains to farmers. The fund rules state that if the price of imported corn is below the base price (US \$160 per ton in 1979) set by the BOFT, the importer contributes the difference to the fund (33). If the import price is above the base price, the fund pays the importer the difference.

Production Subsidies: Credit is provided at lower than commercial rates by the farmer cooperatives. The cooperatives also provide fertilizers, pesticides, and seeds to farmers at subsidized rates.

Tariffs and Customs Valuation Practices: Imports into Taiwan are basically free of government regulation. Currently, importers pay a 5-percent duty on rye, barley, and oats and a 3-percent (temporary) duty on corn. In addition, importers pay a harbor tax of 2 percent. A levy of US \$1.11 per ton is collected on all imported grain for the FGODF. Imports were valued at 20 percent above c.i.f. prices before application of duties before 1980. This valuation price is currently being reduced 5 percent per year until 1983 when imports will be valued at c.i.f. prices.

Bilateral Trade Agreements: Taiwan currently has entered into bilateral trade agreements with the United States, Thailand, South Africa, and Uruguay for delivery of corn.

Restrictions on Wheat and Coarse Grains by Centrally Planned Countries

USSR

Foreign Trade Regulations: USSR trade is controlled through economic planning and regulatory organizations under the Council of Ministers. Export and import targets are established by the foreign trade section of the State Planning Committee (GOSPLAN). Actual trade operations are conducted by

Trade Restrictions Imposed by Importing Countries

Foreign Trade Organizations (FTOs) which enter into contracts with exporting firms and governments. FTOs, under the jurisdiction of the Ministry of Foreign Trade, have exclusive control over exports and imports in their jurisdictions. EXPORTKLEB, an FTO, has control over imports of grains and oilseeds (22).

Pricing Policies: Pricing and marketing of farm products is largely a function of the Soviet government. Internal Soviet prices are established by planners according to production plans and do not reflect actual conditions of supply and demand. Prices have no allocative function in the Soviet Union (as in market economies), but instead serve in auditing for plan fulfillment. World prices and Soviet prices are, therefore, not related.

Bilateral Agreements: The bulk of the USSR's trade under long-term bilateral agreement has been with countries in the Council for Mutual Economic Assistance (CEMA). The USSR has also signed a 5-year agreement with the United States whereby it will purchase at least 6 million tons of wheat and corn annually over the 1976-81 period. The 1980 trade suspension interrupted the terms of this agreement. Annually negotiated trade agreements are common between the USSR and other non-Communist countries. The USSR recently signed an agreement with Argentina for the sale of 22.5 million tons of grain over the next 5 years. Products included are corn, grain sorghum, and soybeans.

Eastern Europe

Foreign Trade: Bulgaria, Czechoslovakia, the German Democratic Republic, Hungary, Poland, and Rumania are members of the Council for Mutual Economic Assistance (CEMA) and coordinate their 5-year plans as well as production and trade. The lack of currency convertibility has resulted in barter trade arrangements among CEMA members. Control over foreign trade rests ultimately with each country's Minister of Foreign Trade which supervises the government foreign trade organizations (FTOs).

Yugoslavia is not a CEMA member and government control of trade is less direct. Yugoslavia permits a larger number of government agencies to engage in international trade, including some large cooperatives.

Pricing Policies: The six-member countries of CEMA have similar agricultural pricing systems. Producer and consumer prices are determined by government fiat in accordance with national economic plans. A mixed system of price control exists in Yugoslavia in which some prices are freely deter-

Trade Restrictions Imposed by Importing Countries

mined by supply and demand, but the government reserves the right to fix, control, or influence other prices.

Trade Agreements: Apart from CEMA membership, long-term bilateral agreements between Eastern European countries consist of two trade agreements between Poland and Canada and Poland and France. Annually negotiated trade agreements are common between Eastern European countries and non-Communist countries.

Restrictions on Rice

Major importers which restrict rice imports include Indonesia, the Republic of Korea, and the EC.

Indonesia

State Trading: Imports of rice into Indonesia are channeled through BULOG, an independent agency of the government of Indonesia established in 1967. BULOG has the sole authority for import and domestic procurement of rice.

Pricing Policies: Since 1969, the government has announced floor prices to be received by rice producers. BULOG attempts to guarantee these floor prices by purchasing rice from rural cooperatives and private traders which buy directly from farmers. BULOG also attempts to maintain prices by selling rice stocks when retail prices exceed the price ceilings by a specified amount.

Producer Subsidies: Rice producers in Indonesia are aided by the government through subsidies on fertilizers (urea) and pesticides, as well as through access to low-cost credit for purchase of packages of "improved" production inputs.

Republic of Korea

State Trading: Rice imports into Korea are supervised by the Ministry of Agriculture and Fisheries. Imports are secured by OSROK (the Office of Supply) and payments are made by the National Agricultural Cooperative Federation (NACF). NACF distributes imported rice to retailers at official release prices.

Pricing Policies: Rice is purchased from Korean farmers at established support prices by the Grain Management Fund (GMF). Farmers can sell rice to the government, to cooperatives, or on the free market. Government-purchased rice is placed in storage and stocks are released to reduce seasonal price fluctuations. The prices producers receive from the government for

Trade Restrictions Imposed by Importing Countries

paddy rice often tend to be lower than the free market price, as the government purchases primarily high-yielding varieties which are less preferred by consumers.

Government-supplied rice is sold to consumers at prices below free market levels. The bulk of free market rice is from traditional varieties preferred by Koreans.

Tariffs: Imports of rice are subject to a 5-percent customs duty.

Producer Subsidies: Fertilizer subsidies were eliminated in December 1975.

European Community

Variable Levies: Levies are applied to imports of rice from nonmember countries of the EC. Preferential treatment is granted to Lomé Convention countries and associated countries (Egypt and Surinam) in the form of reduced import levies. Levies on rice are not subject to MCAs.

Pricing Policies: The EC's pricing system for rice maintains market prices for rice above world levels. A target price is set for brown rice at Duisburg, Federal Republic of Germany. Intervention prices for paddy rice are established at Arles, France, and Vercelli, Italy. Differences between target and intervention prices cover the cost of husking as well as the transport cost to Duisburg. These prices are protected from import competition by threshold prices set for brown and milled rice at Rotterdam. Threshold prices are higher for milled than for brown rice to reflect the higher value of milled rice and to add a margin of protection to EC millers.¹⁰

Export Subsidies: Export refunds are fixed for rice and rice products in the same manner as for grains.

Production Subsidies: Subsidies are available for the domestic purchase of broken rice for manufacture of starch or for brewing.

Restrictions on Soybeans

Major importers of soybeans which place restrictions on imports include the European Community and Japan.

¹⁰Recent European Community MTN concessions on rice equalize U.S. long grain and European round grain prices. This reduces the levy by an equivalent of \$70 per ton and the landed delivery price of U.S. long grain rice by about 13 percent (39).

Trade Restrictions Imposed by Exporting Countries

European Community

Pricing Policies: The EC has protected soybean producers by establishing guide prices since 1974. These prices are generally above world market prices. Soybean processors receive a subsidy payment equal to the difference between the guide and the world price for the purchase of domestic soybeans.

Tariffs: Tariff levels on imports of soybeans and soybean meal have been bound at zero by GATT (General Agreement in Tariffs and Trade) since 1961. An *ad valorem* duty of between 4 and 8 percent is levied on soybean oil for industrial use, and oil for edible use is subject to a 10 to 15-percent *ad valorem* duty. Vegetable oil imports from Lomé Convention countries are granted duty-free access into the EC. Although few Lomé Convention countries export soybean oil, many of them export oils competitive with soybean oil which also benefit from duty-free entry.

Japan

Pricing Policies: Soybean producers in Japan benefit from guaranteed support prices that are higher than equivalent world market prices. Japanese production is largely food-quality soybeans whereas imports are crushed for oil and meal. Japanese farmers who cultivate soybeans on rice paddy fields receive a diversion payment in addition to the guaranteed price (see rice section). The difference between the producer price and the standard market price paid by consumers is subsidized by the government.

Tariffs: Tariff levels on imports of soybeans and soybean meal are bound at zero by the GATT. Soybean oil imports are levied specific tariffs of 17 to 23 yen per kilogram (US \$0.08 – 0.11).

Trade Agreements: Japan often makes use of bilateral trade agreements in order to guarantee supplies. Japan signed a trade agreement in 1975 with the United States which guaranteed Japan 3 million tons of soybeans over a period of 3 years.

Trade Restrictions Imposed by Exporting Countries

Trade restrictions imposed by major exporters of grains and oilseeds include use of marketing boards, export taxes, subsidies and quotas, and exchange rate policies. In addition, many governments establish guaranteed prices to

Trade Restrictions Imposed by Exporting Countries

producers and provide subsidies on credit and inputs which make production of export crops more competitive in world markets.

Policies such as export taxes and quotas, and overvalued exchange rates restrict the level of exports from export competing countries compared to free trade levels. While other exporting countries may benefit from these policies, application of such policies in periods of production shortages exacerbates fluctuations in world prices and places the burden of adjusting to change in policies on other exporting countries. Other policies, such as export subsidies and undervalued exchange rates, increase exports from countries above their free trade levels. The extent to which marketing boards act as barriers to export trade is less clear compared to export taxes and quotas, or other policies.

Marketing Boards: Export marketing boards involve collaboration among federal and state governments and private groups for the purpose of market development and trade promotion. The boards themselves may make actual sales or they may regulate the sales arrangements of private traders. Both Canada and Australia use marketing boards for exports of grain.

Export Taxes: Export taxes are used by exporters (Brazil, Argentina, Thailand, Pakistan) to generate revenues and to discourage exports. Export taxes restrict exports by making them less profitable with the tax. Brazil and Argentina also use export taxes to provide incentives to export certain products.

Exchange Rate Policies: These types of policies are illustrated by Brazil's and Argentina's explicit overvaluation of their exchange rates during specific time periods in order to discourage exports. In addition, Argentina operated a system of multiple exchange rates for exports from 1971 to 1976.

Export Subsidies: Export subsidies include Japan's subsidy on rice exports under its surplus disposal programs and South African subsidies on corn exports. In contrast to the European Community's export restitution system, these subsidies are not direct payments to exporters. Rice losses in Japan are absorbed by the Food Agency and corn losses in South Africa are absorbed by the Corn Stabilization Fund.

The above trade restrictions as well as domestic pricing and production subsidies are described for major exporters in the following section. The trade and domestic policies described are potential barriers to free trade. Domestic pricing policies which maintain prices at world market levels do not necessarily imply trade restriction. The extent to which these practices are restric-

Trade Restrictions Imposed by Exporting Countries

tive depends upon the degree to which domestic policies alter production and consumption and trade flows are distorted.

Restrictions on Soybeans

Major export competing countries include Brazil and Argentina. Their trade and domestic policies are described below.

Brazil

Export Quotas and Licenses: Exports of soybeans and derivative products have been under the control of the Bank of Brazil's foreign trade office (CACEX) since 1958. Since that date, CACEX has used a variety of export quota and licensing schemes to control exports. Currently soybean meal and oil are exported under a global export quota system. Quotas of 5 million metric tons of soybean meal and 567,000 metric tons of soybean oil were established in 1979. Previously, CACEX required domestic market quotas whereby crushers signed agreements with CACEX that guaranteed domestic supplies of meal and oil (February 1979–April 1979) or CACEX authorized exports once it was certified that sufficient oil and meal were available to keep domestic prices at or below domestic price ceilings (1977–February 1979). Export licenses are required for soybean exports.

Export Taxes and Subsidies: Export taxes were applied to soybean and soybean product exports until May 1980, when they were eliminated. Previously, export taxes of 12 percent, 10 percent, and 8 percent were applied to soybean, soybean meal, and soybean oil exports, respectively. These taxes were effective from January 1980 to May 1980. Export taxes provided incentive to export processed products. Previous tax levels were 13 percent on soybean exports and 11.1 percent on soybean meal exports (December 1978–January 1980). A tax of up to 14 percent is charged on domestic sales of soybean oil.

The Brazilian government also favors exports of soybean oil and meal through special financing arrangements and income tax deductions. Processors receive subsidized credit at an annual interest rate of 8 percent to finance production of soybean oil and soymeal destined for export. In addition, earnings from soybean oil exports are not subject to income taxes. Corporate income is taxed at 30 percent.

Export Embargos: Exports of soybeans and soybean oil and meal are temporarily suspended from time to time. Recent suspensions have occurred in July 1974, March 1977, and March 1979.

Trade Restrictions Imposed by Exporting Countries

Exchange Rate Policies: In late 1967, a policy of making small, monthly devaluations of the cruzeiro was started in an attempt to keep the official rate fairly close to equilibrium. The effect of this policy was to remove the implicit tax imposed on exports by a previously overvalued currency. In 1974, due to the decline in the Brazilian balance of trade which resulted from high petroleum prices, minidevaluations of the currency slowed down and the cruzeiro became overvalued again. In late 1979, the cruzeiro was devalued by 30 percent although export taxes were increased on certain products to offset the implicit subsidy from the devaluation.

Pricing Policies: Support prices for soybeans are announced every year. While the minimum price of soybeans is usually below the market price, this price affected soybean production in the past because the availability of credit for soybean production expenses was tied to the support price. Brazilian wheat policy has also stimulated production of soybeans because soybeans and wheat are double-cropped in many areas of Brazil.

The Commissao Interministerial de Preco (CIP) maintains domestic ceilings on soybean oil prices. The retail price ceiling is strictly enforced whereas the wholesale price ceiling is not. Ceiling prices on soybean meal are also maintained by CIP.

Producer Subsidies: The government provides credit at around 35 percent interest, well below the level of inflation. Recent changes in Brazilian credit policy allow production loans based on historical yield ranges (VBC). Previously, production loans were calculated as a percentage of the minimum price times the area planted times a regional yield factor. Farmers can borrow up to 100 percent of the estimated VBC (28).

Argentina

Export Quotas: Exports of oilseeds and derivative products were controlled by the National Grain Board (NGB) from 1973 to mid-1976.¹¹ The NGB issued export licenses and established export quotas to insure the adequacy of domestic supplies. In 1976, exports of vegetable oils and meals were permitted. Exports of soybeans were permitted with the 1977/78 crops. Previously, export quotas of 150,000 and 500,000 tons for soybeans were in effect in 1976 and 1977, respectively. The government continues to influence exports of oilseeds and derivative products by requiring exporters to register with the NGB which restricts export registrations if domestic needs appear to be in jeopardy.

¹¹Argentina experienced a change of government in 1976.

Trade Restrictions Imposed by Exporting Countries

Export Taxes: Taxes on soybeans and soybean oil and meal exports are set at 5.5 percent and 3.0 percent, respectively. A 10-percent rebate has been applied against soybean oil exports since early 1980 which results in an effective export subsidy of 7 percent. Export taxes promote the export of processed products over soybeans. Export taxes are computed on the basis of an index value calculated by the Argentine government rather than the *ad valorem* value.

Pricing Policies: The National Grains Board was the sole buyer and seller of oilseed crops prior to 1976 and administered compulsory minimum prices. These policies were eliminated in March 1976, and free marketing of oilseeds was permitted. Domestic prices of meals and oils remain uncontrolled at present.

Exchange Rate Policies: The Argentinian peso became increasingly overvalued prior to 1976. The peso was devalued by 52.5 percent between March and September 1976 in order to increase agricultural prices received by producers and exporters. The peso has been periodically devalued since that time, although at a generally slower rate than that of inflation.

In 1971, the exchange market was split into a commercial market, where transactions were effected at an established exchange rate, and into a financial market, where transactions were effected at a fluctuating rate of exchange. Effective exchange rates for exports rose from arrangements that prescribed the percent of trade operations negotiated in each market.

Restrictions on Rice

Major exporters of rice include Thailand, Japan, and Pakistan.

Thailand

Export Licensing and Regulations: The Department of Foreign Trade in the Commerce Ministry (DFT) has primary responsibility for regulations affecting foreign trade. DFT requires that all rice exporters be registered members of the Rice Exporters Association (REA). Registered exporters have export quotas, enforced through licensing, although additional quotas may be purchased from other members.

The government also requires that, for every ton of rice shipped, the exporter must sell one-half ton of specified grades of rice to the Public Warehouse Organization at prices set by the government. This rice is then available for government-to-government sales or for release to the public for maintaining

Trade Restrictions Imposed by Exporting Countries

low consumer prices. All REA members are required to maintain rice stocks in proportion to their level of export business (34).

Export Taxes: Exporters pay a rice premium fixed for each type of rice exported to the Commerce Ministry. Exporters also pay a 5-percent export tax based on an assessed price and a 2.2-percent business tax based on the f.o.b. export value. Both taxes are paid to the Customs Department. The level of the rice premium is changed frequently depending upon world market prices.

Pricing Policies: Paddy rice prices are supported by the government through the Marketing Organization for Farmers (MOF). The purpose of MOF's annual acquisition goal is to maintain commercial paddy sales at or above support levels as well as to procure rice for public distribution.¹² In 1979, the government began creating a series of "Fair Price Stores" where rice is sold at 10 percent below the normal retail price.

Export Embargos: Thailand briefly imposed a complete embargo on rice exports in June 1973, because of domestic supply shortages.

Producer Subsidies: Rice farmers are aided by the government through small subsidies on the cost of fertilizer.

Japan

State Trading: Imports and exports of rice in Japan are directly regulated by the Food Agency. Only licensed traders can import or export rice.

Export Subsidies: Rice exports are part of Japanese programs to reduce the level of surplus rice stocks held by the government. The first surplus disposal program (1971-74) disposed of 5.2 million tons of rice for export and feed use. A current 5-year surplus disposal program initiated in April 1979 is designed to eliminate 4.4 million tons of surplus rice from Japanese stocks through subsidies on rice for feed, export, and industrial use. Japanese rice exports are basically concessional in nature, with terms of trade featuring long-term, low-interest provisions.

Pricing Policies: Pricing and marketing of rice is directly controlled by the Food Agency which purchases rice at guaranteed prices and resells at lower prices. Both producer and resale prices are higher than world prices. Since the 1971/72 crop year, the volume of rice purchased by the government has been restricted.

¹²MCF's annual acquisition goal of 600,000 tons was not met in 1978 or 1979. In 1979/80, support prices were increased in order to increase public sales.

Trade Restrictions Imposed by Exporting Countries

Rice diversion programs have been instituted in Japan since 1969. The current 10-year rice diversion program, initiated in 1978, has a target reduction level of 2.5 million tons of rice (brown basis) per year. Producers receive a base payment of 550,000 yen (US \$2,613) per hectare of paddy land diverted to production of wheat, barley, soybeans, and other priority crops.

Pakistan

State Trading: Rice is exported by the Pakistan Rice Export Corporation which holds a monopoly on rice exports. The corporation procures rice from rice mills at an announced price for sales overseas.

Pricing Policies: Sales of rice from producers are subject to a government-decreed floor price which is usually below free market prices. However, the government makes purchases in the village, whereas the free market sale requires the farmer to transport rice to the local market. Rice consumption is not subsidized in Pakistan.

Production Subsidies: The government aids farmers through subsidies for the cost of fertilizer, irrigation water, pest control, and various types of farm equipment.

Export Taxes: Exports of Basmati-type rice are subject to a specific duty of Rs 34 per cwt. (US \$3.70). This duty has been held in abeyance since October 1976.

Restrictions on Wheat and Coarse Grains

Major exporters of wheat and coarse grains are Canada, Australia, Argentina, and South Africa.

Canada

Marketing Boards: The Canadian Wheat Board (CWB) is the sole exporting agency for wheat, oats, barley, and rye from Canada. The CWB, established in 1935, is also the major domestic marketing agency for grains. CWB exports are sold to government buying agencies acting on behalf of their countries or with private trading firms that buy grain from the CWB for resale to customers.

Pricing Policies: The Canadian government establishes initial producer payments for wheat, oats, barley, and rye. These payments are specified on

Trade Restrictions Imposed by Exporting Countries

the basis of anticipated market opportunities and become guaranteed minimum prices. After all grains are marketed and CWB's expenses are deducted, the proceeds are distributed to producers as final payments based upon the grades and qualities of grain delivered. If net returns are insufficient to cover the initial payments, the deficit is made up by the government. The producer can deliver a quantity of a particular grain to the CWB according to the amount of land allocated to grain, oilseeds, forage, and summer fallow.

A two-priced wheat system was introduced in 1973 whereby prices for wheat sold domestically for human consumption are fixed between a guaranteed minimum and maximum level. If export prices exceed the minimum price, millers pay the full export price up to a specified maximum price. If export prices are below the minimum price, millers pay the minimum price. Until December 1978, millers paid the guaranteed minimum price; the difference between the maximum and minimum price was made up by the government.

In 1973, the marketing of domestic feed grains, which had been under complete CWB control, was extended to the private grain trade.¹³ In the CWB market, prices remained determined by the board, and in the nonboard market, prices became market determined. In August 1976, the CWB began to offer feed grains for sale in eastern Canada at a price competitive with U.S. corn. Although feed grains could still be purchased through the nonboard market, CWB prices, in effect, became ceiling prices, reflecting a change in the competitive position of U.S. corn in the eastern Canadian market (3).

Production Subsidies: Feed freight assistance, a subsidy paid on the cost of transporting western grains to points east of Thunder Bay, was introduced in 1942 as a measure to assist livestock producers to obtain feed grains. The Canadian Livestock Feed Board calculated the cost of transportation to various eastern points and set the freight subsidy so that the private transport costs were approximately equal at all locations. Subsidies were removed in 1976 for shipment of western feed grains to most points in eastern Canada west of Montreal.

Canadian freight rates for export wheat are subsidized by the Canadian Pacific Railroad. It has been estimated that this rate covers only 38 percent of the per-ton cost of moving export grain (4).¹⁴

¹³Prior to 1973, CWB was the sole outlet for Prairie-produced feed grains destined for interprovincial and international trade (3).

¹⁴Transportation subsidies are the result of the Crows-Nest Pass Agreement of 1897 in which the Canadian Pacific Railroad received land and a subsidy in exchange for a reduction in freight rates.

Trade Restrictions Imposed by Exporting Countries

Australia

Marketing Boards: The Australian Wheat Board (AWB) has the sole authority to market wheat in Australia. The AWB operates through approved agencies such as the state grain elevator boards and licensed wheat receivers. There are no Commonwealth marketing authorities for coarse grains. Grower-controlled statutory marketing boards in some states acquire barley from producers and dispose of it in local and overseas markets. The most important of these is the Australian Barley Board which has authority to market all barley sold in South Australia and Victoria. The Western Australian Pool, a private body, handles most of the oats exported.

AWB export sales are in the form of direct sales to overseas buyers or as sales to private traders who operate within constraints imposed by the board. A conspicuous feature of Australian trade is the existence of bilateral trading arrangements, many of which apply to wheat trade.

Pricing Policies: There are no government-guaranteed prices for grains in Australia apart from wheat. Wheat pricing policy is based on the Seventh Wheat Industry Stabilization Plan (1979/80-1983/84). Wheat producers receive an initial payment set at 95 percent of the average of the pool return for the two previous seasons and an estimate of the pool return for the current season. Any deficiency between the net pool return and the guaranteed price is met by the government. Wheat marketed is subject to a levy (\$2.50 per ton) the proceeds of which are earmarked for the Wheat Finance Fund, a source of funds the AWB uses to clear outstanding debt on a season's pool at the end of 12 months. A base price for wheat for human consumption was set at \$127.78 and is adjusted annually according to changes in production costs and world market prices.

Under the previous stabilization plan (1974/75-1978/79), wheat producers were guaranteed a stabilization price for wheat exports. If export prices exceeded the stabilization price, producers contributed to the Wheat Stabilization Fund by way of a levy on wheat exports. When export prices were below the stabilization price, the difference was made up by the fund. A base price for domestic wheat sales was established in the first year of the scheme and was adjusted annually according to changes in production costs.

Delivery quotas for wheat were in effect during the 1969/70 and 1970/71 crop years. Total national delivery quotas were developed and shares allocated to each state. Over-quota wheat could be delivered, if space were available, and the price was fixed lower than for quota wheat.

Trade Restrictions Imposed by Exporting Countries

Argentina

State Trading: The National Grain Board (NGB) was the sole seller of Argentina's grain in international markets from 1974 to mid-1976. Argentina favored multiyear bilateral trade agreements during this time. The responsibility for trade was returned to the private sector in 1976, although the government retains the role of negotiating bilateral agreements. Exporters are required to register their sales with the NGB.

Export Taxes: Prior to 1976, export taxes on wheat, corn, and sorghum were as high as 50 percent. Grain exports are currently subject to *ad valorem* taxes of 5.5 percent.

Pricing Policies: All producers were required to sell grain at government-determined prices to the National Grain Board from 1974 to 1976. The government's prices were usually below world prices which resulted in a parallel market where producers sold to neighboring countries at much higher prices. The price of wheat sold to millers through a quota system was lower than the producer price, resulting in a substantial subsidy to consumers. Grain marketing was returned to a free market basis in 1976.

The government announced a floor price for the 1979/80 wheat crop (US \$3.36/bu.) in 1979. The NGB is obligated to buy wheat from farmers at either this price (adjusted by the wholesale price index) or at a price equivalent to 80 percent of the f.o.b. value, whichever is higher. No absolute price floor is established for corn or sorghum; however, farmers are guaranteed 80 percent of the f.o.b. price.

Bilateral Trade Agreements: The Argentine government maintains bilateral trade agreements with the People's Republic of China, Iraq, and the USSR. Grain sales under grain agreements can be fulfilled by the NGB or by private exporters.

South Africa

Marketing Boards: The Maize Board is the sole buyer of corn in the Orange Free State, the Transvaal, and some minor districts. The Maize Board is also the sole wholesale distributor of corn for domestic consumption. The Maize Board does not export as a rule, but sells corn on tender to exporters who sell abroad.

Measurement of the Degree of Protection

Pricing Policies: Corn is purchased by the Maize Board from producers at established guaranteed prices. Corn for domestic consumption is sold by the board at a minimum selling price which acts as a ceiling price.

The government subsidizes the price of wholesale corn by setting the ceiling price at a level less than gross producer price. This subsidy is composed of a transport subsidy, applied so that corn will cost the same throughout the country, and an additional consumer subsidy. When export prices are high, additional subsidies are provided from the Corn Stabilization Fund in order to maintain a lower consumer price (18).

Export Subsidies: Any difference between the Maize Board price paid to producers and the price received from exporters is transferred to the account of the Corn Stabilization Fund. In the 1969/70-1972/73 and the 1977/78-1979/80 marketing years, the Corn Stabilization Fund realized a loss on export sales and, thus, exports were subsidized. From the 1973/74-1976/77 marketing years, profits were realized on export sales. Additional payments were made to producers based upon realized profits during these years (18).

The Corn Stabilization Fund, established in 1953, is financed by export profits as well as contributions from producers, consumers, and the government. The fund is used mainly to defray financial losses on exports of corn; however, it was also used on various occasions for other stabilization measures.

Production Subsidies: The government provides subsidies for the cost of fertilizer as well as for freight costs for agricultural inputs.

Bilateral Trade Agreements: South Africa currently has a bilateral agreement on the export of corn with Taiwan.

Measurement of the Degree of Protection

Measurement of the degree of protection involves quantitative estimates of the total level of protection provided by tariff and nontariff restrictions to trade. This section provides estimates of the degree of protection for wheat and corn provided by policies described earlier for 15 importing and exporting countries in 1978: Brazil, Egypt, the European Community, Greece, India, Japan, Republic of Korea, Mexico, Pakistan, Spain, Taiwan, Argentina, Australia, Canada, and South Africa. Protection estimates for rice importing and exporting countries are provided for the European Community, Republic of Korea, Indonesia, Japan, Pakistan, and Thailand. Protection estimates for

Measurement of the Degree of Protection

soybean importing and exporting countries—the European Community, Japan, Argentina, and Brazil—are also presented in this section.

Methodology

Quantitative estimates of the degree of protection provided by trade barriers have been accomplished in previous studies by measuring the differences between world market prices and domestic prices caused by trade restrictions and domestic price distortions (2, 9, 16).¹⁵ The method used in this study is to estimate, from information on individual policies in different countries, the producer and consumer *ad valorem* tariff equivalent of these policies. The method is summarized as follows:

$$\begin{aligned} \text{ad valorem tariff} &= \frac{P-T}{T} * 100 = \text{degree of protection} \\ &\text{(producers)} \end{aligned} \tag{1}$$

$$\begin{aligned} \text{ad valorem tariff} &= \frac{C-T}{T} * 100 = \text{degree of protection} \\ &\text{(consumers)} \end{aligned} \tag{2}$$

where—

P = average price (support price) received by producers for all types of sales (in dollars).

T = import or export unit value (total value of imports or exports divided by the total quantity of imports or exports in dollars).

C = wholesale selling price (or government release price), if different from P (in dollars).

Measurement of both producer and consumer *ad valorem* tariff equivalents takes into account dual pricing policies of countries in which producer support prices are maintained at different levels than consumer prices. The *ad valorem* tariff equivalents for producers and consumers in an importing country represent the per unit *ad valorem* tariffs which would give the same level of protection if actual producer and consumer price policies were removed and

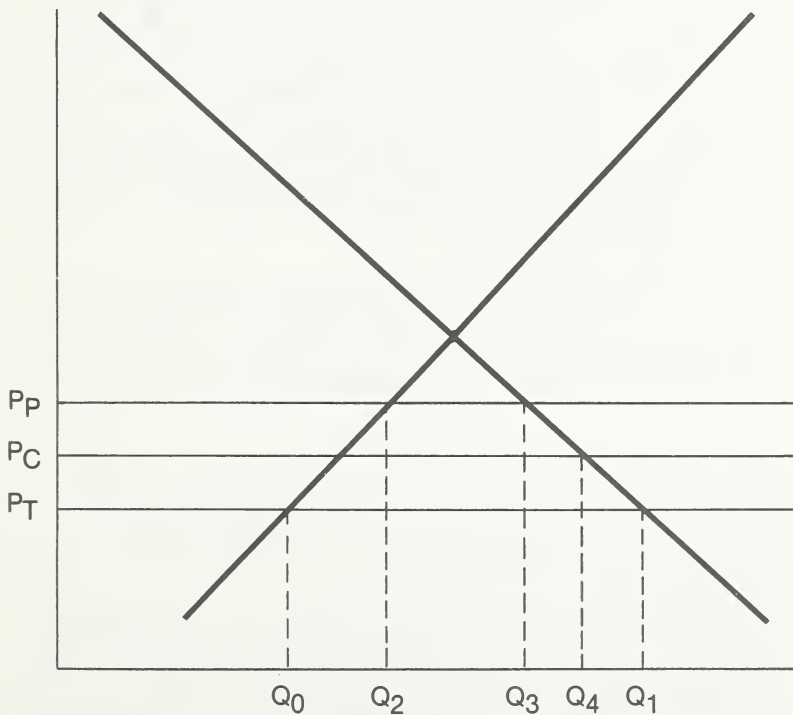
¹⁵Measurement of the degree of protection does not take into account the welfare cost of protection incurred by the protecting country due to distortion of domestic production and consumption patterns (see Bale and Greenshields (2) for an example). The welfare cost of protection is more significant to the protecting country whereas market accessibility (degree of protection) is more significant to the exporting country (9).

Measurement of the Degree of Protection

replaced by tariffs. The *ad valorem* tariff equivalents estimated for an exporting country represent the level of the *ad valorem* subsidy or tax provided to producers or consumers by domestic and trade policies. This is shown in figure 1 where P_T represents the world price at which the grain of interest can be imported (small country assumption) under free trade. If the importing country sets the producer support price above P_T , say at P_P , the domestic market must be protected from imports at a level at least equal to the distance $P_P - P_T$. This can be accomplished via tariffs or levies equal to $P_P - P_T$, an import quota equal to the distance $Q_2 - Q_3$, or by domestic marketing and state

Figure 1

Effect of Trade Restrictions Imposed by an Importing Country



Measurement of the Degree of Protection

trading measures that maintain domestic sales at the level of P_P (with government revenue equal to the distance $P_P - P_T$ earned on imports).¹⁶ Regardless of the method chosen, the level of protection is represented by the distance $P_P - P_T$.

Similarly, if the consumer price is maintained at a level represented by P_C , some combination of protective measures must be used in order to maintain prices at that level. The level of protection is represented by the distance $P_C - P_T$. The extent to which imports are restricted depends upon the level of protection and the extent to which both foreign and domestic production and consumption respond to the changes in price. In figure 1, the effect of restrictions on domestic consumption and production is to reduce imports from $Q_0 - Q_1$ to the level of imports represented by $Q_2 - Q_4$.¹⁷ However the extent of the reduction depends upon the parameters of the demand and supply curves as well as the degree of protection.

The case for an exporting country, shown in figure 2, is represented by the world price level at P'_T . If the exporting country wants to maintain domestic producer (and consumer) prices below P'_T , say at P'_P , the country can accomplish this by placing a tax on exports equal to the distance $P'_T - P'_P$, an export quota equal to the distance $Q_2 - Q_3$, or by state trading and marketing practices which maintain domestic prices at P'_P , but allow export sales at P'_T .¹⁸ In the first two cases, the amount of the tax (subsidy) on producers (consumers) is equal to $P'_T - P'_P$. In the third case, consumers receive a subsidy equal to $P'_T - P'_P$, but producers are taxed the difference between P'_T and a weighted average of P'_T and P'_P .

Similarly, if the country wants to maintain domestic producer (consumer) prices above the world price, say at P''_P , the country can accomplish this by state trading or by price fixing policies coupled with export subsidies equal to the difference $P''_P - P'_T$. The level of protection, and the subsidy (tax) to pro-

¹⁶Inelastic foreign export supply could result in the exporting country bearing the total incidence of the tariff so that prices in the importing country do not rise. Protection equal to $P_P - P_T$ could be accomplished by a quota or state trading in this case.

¹⁷If the consumer price is maintained below P_T , the country is subsidizing consumption and imports will be greater than without the subsidy.

¹⁸The incidence of the export tax is generally on producers in the case of a small country. A large trading country, however, such as Brazil in soybeans or Thailand in rice, could possibly shift part or all of the incidence of the tax to foreign consumers. This depends upon the elasticity of supply in the exporting country and the extent to which export demand is inelastic. For instance, Wong (41) shows that the imposition of taxes on rice exports in Thailand resulted in a net welfare gain to Thailand by increasing the international rice price.

Measurement of the Degree of Protection

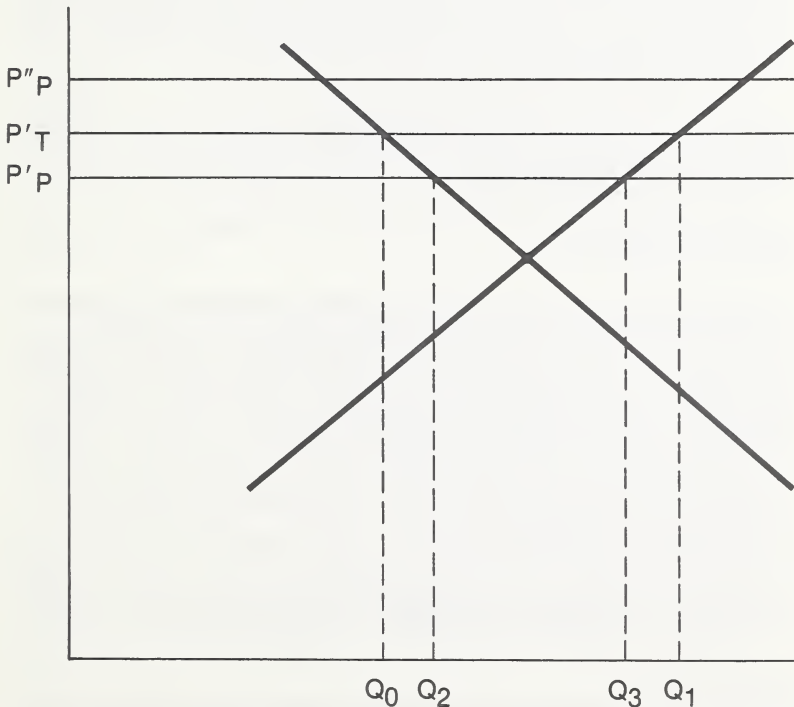
ducers (consumers), is represented by $P''_P - P'_T$. Again, as in the case of the importing country, the impact of the trade restrictions depends upon the relevant domestic demand and supply elasticities as well as the degree of protection.

Measurement Problems

Qualification concerning the reliability of the above method for measuring the degree of protection provided by trade restrictions include quality differences, distribution and transport costs, and the level of the world price used (9). Quality differentials between domestic production and imports cause the pro-

Figure 2

Effect of Trade Restrictions Imposed by an Exporting Country



Measurement of the Degree of Protection

tection estimate to be overestimated (underestimated) depending on whether domestic production is of superior (inferior) quality. No adjustment was made for quality differentials in this study and the results should be interpreted with this factor in mind.

Distribution and transportation costs are important because import and domestic prices should be compared at the same level of the marketing chain. Comparison of import prices with producer support prices will tend to underestimate the actual degree of protection if additional costs are required to transport the product to port cities or major markets. It is conceivable that, in countries with high distribution costs, free trade would result in the domestic producer receiving a lower than world market price at the farm level. Transport and distribution costs were generally not included in the production estimates made in this study.

A third problem is the use of existing trade prices to measure the degree of protection. This assumes that prices will remain constant if protection is discontinued. Current world prices are distorted as a result of trade barriers and it would be expected that world prices would change with changes in the level of protection. No correction is made for this problem because it requires knowledge of free trade prices.

In addition to the above, subsidies on production inputs are also not included in the protection estimates of this study. These policies, however, are discussed in the first part of the study.

Degree of Protection

Estimates of the degree of protection provided for producers and consumers of wheat and corn for 15 importing and exporting countries in 1978 are presented in this section. These estimates were made for each country according to equations 1 and 2 given earlier, with the exception of the European Community and South Africa. *Ad valorem* tariff equivalents for the EC were estimated from import levies according to the formula L_i/T_i , where L_i is the levy on grain i and T_i is defined previously. The latter method of calculation assumes producer (and consumer) prices are maintained at the level of the threshold price.¹⁹ The protection levels for corn in South Africa were obtained by taking the per unit subsidies on corn for domestic use and for export as a percentage of the f.a.e. (free along elevator) price. In countries that apply export taxes as the method of restriction, the *ad valorem* incidence of the tax

¹⁹Prices received by producers in the EC can vary between the intervention price and the threshold price.

is used to measure the level of the restriction. All import prices are annual averages for 1978 except where indicated. Producer and consumer prices are for the 1978/79 crop year except where indicated.

Wheat and Corn

Protection levels in table 1 indicate the percentage difference between international prices and domestic producer prices maintained by country policies. Positive rates of protection indicate that producers were protected by the equivalent of the *ad valorem* tariffs shown in table 1 by trade and pricing policies. For example, Brazil's soft wheat domestic price to producers was 53 percent higher than the soft wheat world price while Egypt's domestic price was 39 percent less than the world price. Japan, the Republic of Korea, and the EC had the highest levels of protection for producers of wheat and corn in 1978. Negative rates of protection for producers in developing countries such as Egypt and Pakistan indicate the *ad valorem* equivalent of a tax placed on producers of wheat and corn. These policies represent cheap food policies maintained by these countries that transfer income from producers to consumers. Negative rates of protection were also estimated for Mexico and India. Transport costs to consuming centers as well as market prices which are generally above support prices (such as in India) could bring the rates calculated more in line with world prices. Among exporting countries, wheat producers in Australia were taxed slightly in 1978 due to government subsidies on consumer prices and contributions to the stabilization fund. The rate of the effective tax shown in table 1 is calculated from the weighted average of the price received on domestic sales and the export price less contributions to the stabilization fund.

High rates of protection for producers in table 1, however, do not apply to consumers in all countries (table 2). Japan and the Republic of Korea, which control trade through state trading procedures, maintain lower prices of wheat and corn to consumers than are received by producers. Consumption of wheat and corn in these countries is supplied primarily from imports which indicates that losses on sales of domestic production are less than in countries where domestic production is large. Positive rates indicated in table 2 (meaning consumers pay higher than world prices) nevertheless indicate that consumption of corn and wheat in these countries was still being taxed in 1978 despite subsidies paid on sales of domestic production. This tax represents revenue to the government earned on domestic sales of imports. Consumers of grains in the European Community, where trade is essentially conducted by private traders, were affected by the same level of protection as producers.

Measurement of the Degree of Protection

Some countries have a "cheap food" policy by maintaining consumer prices for staple commodities below world levels; more than 70 percent below in Egypt's case (table 2). Such protection was maintained for consumers in importing countries such as Egypt, Brazil, Pakistan, Mexico, and India. The

Table 1—*Ad valorem* tariff protection provided to producers of wheat and corn, 1978

Country	Percentage by which domestic price is higher or lower (-) than world price for:		
	Soft wheat	Durum wheat	Corn
	<i>Percent</i>		
Importing countries:			
Brazil	¹ 53.0	—	—
Egypt	² 39.0	—	—
European Community	³ 97.3	133.0	114.9
Greece	⁴ 54.9	⁴ 97.2	55.8
India	⁵ 7.0	—	—
Japan	⁶ 442.8 (529.1)	—	—
Korea, Republic of	⁷ 167.3	—	184.3
Mexico	⁸ 8.6	—	5.8
Pakistan	⁹ 33.8	—	—
Spain	¹⁰ 34.2	31.9	80.5
Taiwan	¹¹ 81.5	—	81.9
Exporting countries:			
Argentina	¹² 5.5	—	-5.5
Australia	¹³ 5.5	—	—
Canada	—	—	—
South Africa	¹⁵ 58.0	—	¹⁴ 14.3

— = not applicable.

¹Sources: (40, 27).

²Average farm gate price in 1978 (35).

³*Ad valorem* tariff equivalent of levies applied in 1978 (7). The actual tariff incidence of levies varies by country due to application of MCAs (14).

⁴Sources: (40, 37). f.o.b. export price is used for wheat.

⁵Estimated from the producer support price (40, 12).

⁶Sources: (40, 12). Effect of diversion payments to wheat producers shown in parentheses.

⁷Sources: (40, 10).

⁸Sources: (21).

⁹Sources: (13, 40).

¹⁰Sources: (10, 12, 36). July-September 1978 average domestic price for corn.

¹¹Sources: (10, 40).

¹²Sources: (17). Represents tax on grain exports.

¹³Weighted average of the difference between the home price and f.o.b. price and payments made to the stabilization fund, as a percent of the f.o.b. price, 1977/78 crop year (1, 40).

¹⁴Subsidy paid on exports, 1978/79 crop year, as a percent of the export price (18).

¹⁵Difference between the average f.a.e. (free along elevator) price and the export price to overseas destinations (38).

Measurement of the Degree of Protection

negative values in table 2 indicate the *ad valorem* subsidy provided to consumers of imported grains by the government.

Consumption of wheat among exporting countries was also subsidized in 1978 in Canada and Australia. The subsidy in Australia is due to the lower home price of wheat. In Canada, the subsidy was provided by the government,

Table 2—*Ad valorem* tariff protection provided to consumers of wheat and corn, 1978

Country	Percentage by which domestic price is higher or lower (-) than world price for:		
	Soft wheat	Durum wheat	Corn
	<i>Percent</i>		
Importing countries:			
Brazil	-42.0	—	¹ -23.5
Egypt	² -71.1 (-79.8)	—	—
European Community	97.3	133.0	114.9
Greece	² 30.9 (0)	67.7	—
India	-19.5	—	—
Japan	³ 59.5 (87.8)	—	³ —
Korea, Republic of	⁴ 4.8	—	⁴ 9.8
Mexico	⁵ -21.1	—	⁵ -14.5
Pakistan	-42.5	—	—
Spain	⁶ 34.2	⁶ 31.9	67.4
Taiwan	⁷ 17.5	—	5.8
Exporting countries:			
Argentina	⁸ -5.5	—	⁸ -5.5
Australia	-6.0	—	—
Canada	⁹ -22.6	—	—
South Africa	¹⁰ 58.0	—	-13.6

— = not applicable

¹Estimated from consumer price of corn established July 1978 (27).

²Wheat-equivalent bread subsidy in parentheses. Consumer prices for wheat and bread were effective June 1978.

³Resale price of imported wheat in parentheses. Corn for industrial use outside the corn import quota was assessed the equivalent of an *ad valorem* tariff of 62.7 percent.

⁴Estimated from 1978 break points.

⁵Prices paid by mills and feed compounders (40).

⁶Resale prices for wheat are 105 percent of support prices plus a monthly increment.

⁷Estimated from 1978 standard or base price (33).

⁸Export tax on grains.

⁹Estimated as the difference between the fixed resale price to mills and the export price in 1978. (5).

¹⁰Selling prices of wheat are slightly higher than producer prices. Subsidies are applied on bread (38).

Sources: See table 1 footnotes.

Measurement of the Degree of Protection

which made up the difference to the Canadian Wheat Board between the fixed resale price of wheat and the export price. This policy was changed in December 1978 to provide less of a subsidy to consumers.

Consumers of wheat (Taiwan) and wheat and corn (Republic of Korea) faced higher than world market prices in 1978 due to government stabilization policies. Importers in these countries pay into a stabilization fund if import prices are below a specified minimum (break or base) price. Funds collected are then used to stabilize prices paid by processors in the event of high import prices. These *ad valorem* taxes calculated in table 2 represent the cost of stabilization policies to consumers.

Rice

Ad valorem tariff equivalents provided rice producers and consumers in exporting and importing countries are shown in table 3. The highest rates of protection for producers among rice exporting and importing countries are in

Table 3—*Ad valorem* tariff protection provided to rice producers and consumers, 1978

Country	Percentage by which domestic price is higher or lower (–) than world price for:	
	Producers	Consumers
	<i>Percent</i>	
Importing countries:		
European Community	¹ 85.9 (65.8)	85.9
Korea, Republic of	² 113.8	87.0
Indonesia	³ -16.6	⁴ -17.0
Exporting countries:		
Japan	⁵ 339.5	270.5
Pakistan	⁶ -59.7	-59.7
Thailand	⁷ -36.7	-36.7

¹*Ad valorem* tariff equivalent of levies, on imports of fully milled, long grain rice from third countries, 1978 (7). *Ad valorem* tariff equivalent of levies on imports of milled, short grain rice from associated countries in parentheses. No MCAs are applied on rice imports.

²Brown basis, estimated from Japanese f.o.b. export price (19, 30).

³Milled basis (6).

⁴Ceiling price on milled rice in Jakarta (6).

⁵Brown basis (19, 29).

⁶Estimated as the difference between the export procurement price and the f.o.b. export price of Basmati rice divided by the export price (13).

⁷Estimated as the difference between the wholesale Bangkok price, 15 percent broken, and the f.o.b. export price divided by the export price (32).

Measurement of the Degree of Protection

Japan and the Republic of Korea. These high rates of protection have encouraged production of rice and displaced imports in both countries. High rice prices in Japan have resulted in rice surpluses since the late sixties. High rice prices in Korea have resulted in near self-sufficiency in rice with sporadic import purchases from year to year.

Producers in Pakistan and Thailand, where trade in rice is regulated or controlled by the government, are taxed as indicated by negative rates of protection in table 3. These policies are implemented as means to extract government revenue from rice exports in these countries. Low rice prices in Indonesia are motivated by the aim of maintaining low prices for consumers at the expense of producers. The negative protection rate for Indonesia is the equivalent of an *ad valorem* tax on producers and an *ad valorem* subsidy for consumers.

Soybeans

Ad valorem tariff equivalents of policies affecting soybean producers and consumers in importing and exporting countries in 1978 are shown in table 4. In general, these policies represent lower levels of distortion than in the wheat,

Table 4—*Ad valorem* tariff protection provided to producers and consumers of soybeans, 1978

Country	Percentage by which domestic price is higher or lower (-) than world price for:	
	Producers	Consumers
	<i>Percent</i>	
Importing countries:		
European Community	¹ 86.2	—
Japan	² 383.0 (639.8)	—
Exporting countries:		
Argentina	³ -5.5 (-2.0)	-5.5 (-2.0)
Brazil	⁴ -13.0 (-10.0)	⁵ -13.0 (-9.6)

— = not applicable

¹Subsidy paid to EC processors on purchases of EC-produced soybeans (8).

²Soybean oil subject to import taxes of 17–23 yen per kg. Protection rate is based on the support price for domestic soybean (food-quality) production. Support rate plus the diversion payment in parentheses (29).

³Tax on soybean exports. Soybean-equivalent tax on soybean meal exports (3 percent) and soybean oil exports (2 percent subsidy) in parentheses (17).

⁴Tax on soybean exports. Soybean-equivalent tax on soybean meal exports (9.6 percent until November 1978) and soybean oil (tax of 21 percent on domestic sales and zero percent tax on exports) in parentheses (26).

⁵Soybean-equivalent taxes on domestic consumption of oil and meal (9.6 percent subsidy on meal consumption and 12.4-percent subsidy on domestic oil consumption) (26).

Conclusions

corn, and rice markets. Protection provided to domestic producers of soybeans in the EC and Japan is in the form of support prices and does not apply to consumers. Consumption of domestically produced soybeans is subsidized. The producer subsidy on soybeans in the EC was equivalent to 86 percent *ad valorem* in 1978, but was applied to only 6,000 tons of domestic production compared to imports of 14 million tons (8). Domestic production of soybeans in Japan is negligible and does not compete with imports of soybeans which are crushed. Except for Brazil, the protection provided by the policies in soybean exporting and importing countries (export taxes and consumer subsidies) generally allow market signals to penetrate the domestic economy. Thus, these policies do not increase the level of market instability.

Soybean-equivalent taxes on oil and meal are given in table 4 in addition to soybean export taxes.²⁰ Lower soybean-equivalent taxes for Argentina and Brazil indicate the degree of the incentive to produce and export processed products over soybeans.

Conclusions

Trade restrictions in importing countries, especially nontariff ones, are important constraints to increased agricultural trade. State trading practices and variable levies that protect administered price levels set in importing countries as well as tariffs, taxes, quotas, bilateral agreements, and other policies restrict the level of competition in international markets. In addition, many exporting countries implement similar types of policies which restrict exports or allow for surplus disposal in international markets when production is high. These policies are currently being implemented in many major exporting and importing countries of wheat, coarse grains, rice, and soybeans.

Quantitative estimates of the degree of protection indicate that wheat and rice markets are the more heavily protected, followed by corn and soybeans. Moreover, much of the protection provided in wheat and rice markets results from state trading policies that support domestic prices at levels different from world market prices and do not permit world market signals to affect domestic price levels. Many developing countries provide subsidies to consumption of rice and wheat whereas developed countries tend to maintain prices at higher than world market levels. The importance of nontariff barriers in wheat, rice, and corn markets indicates that future efforts to increase competition in these markets may be difficult.

²⁰The soybean-equivalent tax or subsidy is obtained by multiplying export taxes or the tax-equivalent of policies for oil and meal times their respective yields in processing.

References

- (1) Australian Wheat Board. *Annual Report*, 1977/78.
- (2) Bale, M. and B. Greenshields. "Japanese Agricultural Distortions and Their Welfare Value," *American Journal of Agricultural Economics*, Vol. 60, Feb. 1978, pp. 59-64.
- (3) Bray, C.E. *Canadian Feed Grain Policy*. FAER-144. Econ. Stat. Coop. Serv., U.S. Dept. Agr., 1978.
- (4) Bray, C. E., P. Paarlberg, F. D. Holland. "The Effects of a U.S. Wheat Board." Econ. Stat. Serv., U.S. Dept. Agr. (forthcoming).
- (5) Canadian Wheat Board. *Annual Report*. Winnipeg, 1977/78 and 1978/79.
- (6) Central Bureau of Statistics. *Statistik Indonesia*. 1978/79.
- (7) Commission of the European Communities. *Marché Agricole*. Brussels, various issues, 1978.
- (8) ———. *Agricultural Situation in the Community*. Brussels, 1978.
- (9) Dardis, R. and E.W. Learn. *Measures of the Degree and Cost of Economic Protection of Agriculture in Selected Countries*. TB-1384. Econ. Res. Serv., U.S. Dept. Agr., 1967.
- (10) Food and Agriculture Organization of the United Nations. *Trade Yearbook*, 1978.
- (11) Hillman, J.S. *Nontariff Agricultural Trade Barriers*. Lincoln, Univ. Nebraska Press, 1978.
- (12) International Wheat Council. *World Wheat Statistics*, London, 1979.
- (13) International Monetary Fund. *Recent Economic Developments: Pakistan*. Washington, D.C., 1979.
- (14) Jabara, C.L. and A. Brigida. *Variable Levies: Barriers to Grain Imports in France, The Netherlands, Federal Republic of Germany, and United Kingdom*. FAER-156, Econ. Stat. Coop. Serv., U.S. Dept. Agr., 1980.

References

- (15) Johnson, D.G. "World Agriculture, Commodity Policy, and Price Variability," *American Journal of Agricultural Economics*, Vol. 57, Dec. 1975, pp. 823-38.
- (16) Josling, T. *Developed-Country Agricultural Policies and Developing-Country Food Supplies; The Case of Wheat*. Research Report 14, International Food Policy Research Institute, Washington, D.C., Mar. 1980.
- (17) Junta Nacional de Granos. *Bolsa de Cereales*. Monthly, 1978.
- (18) Maize Board. *Report on Maize*. Pretoria, 1978/79.
- (19) Ministry of Agriculture, Forestry, and Fisheries. *Monthly Statistics of Agriculture, Forestry, and Fisheries*. Tokyo, various issues, 1978.
- (20) Schuh, G.E. and G. Williams. "Green Currencies, Exchange Rates, and Trade in U.S. Agricultural Products," in Luther Pickrel (ed.) *U.S. Critical Issues for Agriculture in the 1980's: Domestic Policy, Trade and Transportation*. Special Report 79, Agr. Ext. Serv., Univ. Minnesota, 1979.
- (21) Secretaría de Programación y Presupuesto. *Boletón Mensual de Información Económica*. Mexico, May 1979.
- (22) Steele, S. *Agricultural Policies of Exporters and Importers of Grains, Oilseeds, and Cotton*. Econ. Res. Serv., U.S. Dept. Agr. (unpublished).
- (23) Thompson, R.L. "The Brazilian Soybean Situation and its Impact on the World Oils Market," *Journal American Oil Chemists Society*, Vol. 56, No. 5, pp. 391A-398A, 1979.
- (24) Toepfer, A.C. (pub.). *The E.E.C. Grain Market Regulation 1979/80*. Hamburg, 1979.
- (25) U.S. Department of Agriculture. "Argentina Grain and Feed Reports." Agricultural attache report. Various issues.
- (26) _____. "Brazil: Special Soybean Report," BP-9001, Jan. 1979.
- (27) _____. "Brazil: Grain and Feed Report," BB-8037, Aug. 1978.

- (28) _____. "Brazil Agricultural Situation," BB-006, Jan. 1980, and BB-9002, Jan. 1979.
- (29) _____. "Japan Agricultural Situation," JP-9004, Jan. 1979.
- (30) _____. "Korea Agricultural Situation Report," KR-9001, Jan. 1979.
- (31) _____. "Mexico Annual Agricultural Situation," MX-0005, Feb. 1980.
- (32) _____. "Rice Weekly Report," Various issues, 1978.
- (33) _____. "Taiwan Grain and Feed Report Annual Report," TW-9011, Nov. 1979.
- (34) _____. "Thailand Agricultural Situation Report," TH-9016, Jan. 1979.
- (35) _____. "Egypt: Agricultural Situation Report-1978." EG-9002, Jan. 1979.
- (36) _____. "Spain: Regulation of the 1979/80 Marketing Year for Cereal Grains and Feed Pulses," SP-9071, 1979.
- (37) _____. "Greece Grain and Feed Report," GR-9013, May 1979.
- (38) _____. "South Africa: Grain and Feed," SA-9092, Nov. 1979.
- (39) _____. *U.S. Competitiveness in World Agricultural Trade*. Presidential Report to the Congress, June 1980.
- (40) _____. Foreign Agricultural Service. "Wheat and Corn Prices for Selected Countries," FG-6-79, Apr. 1979.
- (41) Wong, C.M. "A Model for Evaluating the Effects of Thai Government Taxation of Rice Exports on Trade and Welfare," *American Journal of Agricultural Economics*, Vol. 60, Feb. 1978, pp. 65-73.

* NATIONAL AGRICULTURAL LIBRARY



1022201751

UNITED STATES DEPARTMENT OF AGRICULTURE
WASHINGTON, D.C. 20250



Economics and Statistics Service

The Economics and Statistics Service (ESS) collects data and carries out research on food and nutrition, international agricultural trade, natural resources, and rural development. The Economics unit researches and analyzes production and marketing of major commodities; foreign agriculture and trade; economic use, conservation, and development of natural resources; trends in rural population, employment, and housing and rural economic adjustment problems; and performance of agricultural industry. The Statistics unit collects data on crops, livestock, prices, and labor, and publishes official USDA State and national estimates through the Crop Reporting Board. Through its information program, ESS provides objective and timely economic and statistical information for farmers, government policymakers, consumers, agribusiness firms, cooperatives, rural residents, and other interested citizens.